

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Original) A magnetic recording medium comprising:
a non-magnetic substrate;
a soft magnetic layer formed on the non-magnetic substrate, the soft magnetic layer including a plurality of projected parts arranged regularly on a surface thereof and recessed parts surrounding each of the projected parts;
a ferromagnetic layer formed on the soft magnetic layer, the ferromagnetic layer including projected parts and recessed parts reflecting the projected parts and the recessed parts of the soft magnetic layer; and
recording areas having perpendicular magnetic anisotropy and ferromagnetism, the recording areas being formed of the projected parts of the ferromagnetic layer and being separated magnetically from their surroundings.

2. (Original) The magnetic recording medium according to claim 1, wherein the non-magnetic substrate includes a plurality of projected parts arranged regularly on a surface thereof and recessed parts surrounding each of the projected parts, and the projected parts and recessed parts of the soft magnetic layer reflect the recessed parts and the projected parts of the non-magnetic substrate.

3. (Original) The magnetic recording medium according to claim 1, wherein the non-magnetic substrate has a flat surface, and the soft magnetic layer has the projected parts and the recessed parts on the surface thereof.

4. (Original) The magnetic recording medium according to claim 3, wherein the soft magnetic layer comprises

a soft magnetic film having a flat surface; and
soft magnetic fine particles arranged regularly separately from each other on the soft magnetic film.

5. (Original) The magnetic recording medium according to claim 1, wherein the soft magnetic layer has such a thickness that a magnetic orientation thereof is stably uniform in an in-plane direction during writing and reading.

6. (Currently amended) The magnetic recording medium according to claim 1, wherein a thickness L1 of the soft magnetic layer is at least twice a height L2 of the projected parts of the soft magnetic layer, the thickness and the height being measured along a direction perpendicular to a plane of the substrate.

7. (Currently amended) The magnetic recording medium according to claim 1, wherein a thickness of the ferromagnetic layer is set to be from 1/2 to 1/4 of a height L2 of the projected parts of the soft magnetic layer, the thickness and the height being measured along a direction perpendicular to a plane of the substrate.

8. (Original) The magnetic recording medium according to claim 1, wherein the ferromagnetic layer is made of an artificial lattice layer.

9. (Currently amended) A magnetic recording medium comprising:
~~a flat non-magnetic substrate including a plurality of projected parts arranged regularly on a surface thereof and recessed parts surrounding each projected part;~~
~~a magnetic ferromagnetic layer formed on the non-magnetic substrate, the magnetic ferromagnetic layer including a plurality of projected parts and recessed parts reflecting the projected parts and the recessed parts of the non-magnetic substrate; the projected parts of the ferromagnetic layer serving as recording areas having perpendicular magnetic anisotropy and ferromagnetism, the recording areas being formed of the projected parts of the magnetic layer, and being separated magnetically from their surroundings; and~~
~~non-recording areas having soft magnetism, the non-recording areas being formed of the magnetic layer excepting buried in the recessed parts of the ferromagnetic layer so as to surround the recording areas.~~

10. (Currently amended) The magnetic recording medium according to claim 9, wherein the magnetic ferromagnetic layer is made of an artificial lattice layer.

11. (Withdrawn) A method for manufacture of a magnetic recording medium comprising:

forming a soft magnetic layer including a plurality of projected parts arranged regularly on a surface thereof and recessed parts surrounding each of the projected parts; and

forming a ferromagnetic layer having perpendicular magnetic anisotropy on the soft magnetic layer.

12. (Withdrawn) The manufacture method according to claim 11, wherein the formation of the soft magnetic layer comprises:

forming a non-magnetic substrate including a plurality of projected parts arranged regularly on a surface thereof and recessed parts surrounding each of the projected part; and

depositing a soft magnetic layer on the non-magnetic substrate.

13. (Withdrawn) The manufacture method according to claim 12, wherein the projection parts and the recessed parts of the non-magnetic substrate are processed by using an injection molding method.

14. (Withdrawn) The manufacture method according to claim 13, wherein a mold used for the injection molding method is made by forming a regular dot pattern on a material of the mold by use of a self-organizing function of block co-polymer, and etching a surface of the material using the dot pattern as a mask pattern.

15. (Withdrawn) The manufacture method according to claim 11, wherein the formation of the soft magnetic layer comprises:

preparing a non-magnetic substrate having a flat surface;

depositing a soft magnetic layer having a flat surface on the non-magnetic substrate; and

forming a plurality of projected parts arranged regularly and recessed parts surrounding each projected part on the flat surface of the soft magnetic layer by using a press molding method.

16. (Withdrawn) The manufacture method according to claim 15, wherein a mold used for the press molding method is made by forming a regular dot pattern on a material of the mold by use of a self-organizing function of block co-polymer, and etching a surface of the material using the dot pattern as a mask pattern.

17. (Withdrawn) The manufacture method according to claim 11, wherein the formation of the soft magnetic layer comprises:

depositing a soft magnetic film having a flat surface on a non-magnetic substrate; and

arranging regularly soft magnetic fine particles including a composition common with the soft magnetic film separated from each other on the soft magnetic film.

18. (Withdrawn) The manufacture method according to claim 17, wherein the arrangement of the soft magnetic fine particles is performed by use of a self-organizing function thereof.

19. (Withdrawn) A method for manufacture of a magnetic recording medium comprising:

forming a non-magnetic substrate including a plurality of projected parts arranged regularly on a surface thereof and recessed parts surrounding each projected part; and

forming an artificial lattice layer made of a ferromagnetic material having perpendicular magnetic anisotropy on the non-magnetic substrate.

20. (Withdrawn) The manufacture method according to claim 19, wherein the projection parts and the recessed parts of the non-magnetic substrate are processed by using an injection molding method.

21. (Withdrawn) The manufacture method according to claim 20, wherein a mold used for the injection molding method is made by forming a regular dot pattern on a material of the mold by use of a self-organizing function of block co-polymer, and etching a surface of the material using the dot pattern as a mask pattern.